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IS 3110 (1982): Silver Leaf [MTD 10: Precious Metals]

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Indian Standard

SPECIFICATION FOR SILVER LEAF

(First Revision)

UDC 669·22 — 416

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MANAK BHAVAN, 9 BAHADUR-SHAH ZAFAR MARG
NEW DELHI 110002

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April 1982

AMENDMENT NO. 1 JUNE 2010
TO
IS 3110 : 1982 SPECIFICATION FOR SILVER LEAF

(First Revision)

(*First cover page*, *title page*, *and page* 3) — Substitute '**SPECIFICATION FOR SILVER LEAF FOOD GRADE**' for the existing.

(*Page* 3, *clause* **1.1**) — Insert the following at the end of the clause:

'It shall be free from aluminium.'

(*Page* 3, *clause* **2.1**, *second sentence*) — Substitute the following for the existing:

'The maximum permissible impurities shall be as lead, 10 ppm, Arsenic, 3 ppm, Cadimum, 1.5 ppm and total heavy metal, 40 ppm.'

(MTD 10)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPECIFICATION FOR SILVER LEAF

(First Revision)

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(*Continued on page* 2)

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(*Continued from page* 1)

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Indian Standard

SPECIFICATION FOR SILVER LEAF

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 29 January 1982, after the draft finalized by the Precious Metals Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 This standard was first published in 1965. Silver leaf is used extensively in India for edible purposes, such as in AYURVEDIC and UNANI systems of medicine and as a coating on sweets, PAN and other eatables. Very high purity of silver has been recommended in order to avoid possibilities of contamination due to harmful elements. Since silver leaf may be used for edible purpose, the maximum permissible impurity limits of harmful elements specially for arsenic, lead, cadmium and mercury have been specified in this revision.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the requirements of silver leaf used for edible purposes.

2. PURITY

2.1 The silver content of silver leaf shall be of minimum 999/1 000 fineness. The maximum permissible impurities shall be, as lead, 2·5 ppm; arsenic, 1·1 ppm; cadmium, 0·8 ppm and mercury, 0·01 ppm.

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*Rules for rounding off numerical values (*revised*).

2.1.1 The silver content shall be determined either by the method specified in IS : 2113-1972* or any other established instrumental/ chemical method. In case of dispute the procedure in the latest edition of IS : 2113-1972* for chemical analysis shall be the referee method.

2.1.2 The Indian Standard for determination of lead, arsenic, cadmium and mercury is under preparation. Until this standard is published, the method for determination of these elements shall be as agreed to between the purchaser and the supplier.

3. SUPPLY OF MATERIAL

3.1 General requirements relating to the supply of material shall conform to IS : 1387-1967†.

4. REQUIREMENTS

4.1 Silver leaf shall be in the form of sheet free from creases and folds.

4.2 Weight — Silver leaves shall be supplied in weight as given below:

Weight of one pack of 100 silver leaves
(10 books each of 10 leaves) = 10 g

4.2.1 *Tolerance* — Tolerance on weight specified in **4.2** shall be ± 0·5 g.

4.3 Size — Unless otherwise specified, the silver leaf may be supplied in approximately 170 × 145 mm size.

5. PACKING

5.1 The books shall be properly packed in a suitable container so as to prevent damage due to creasing or bending in transit.

5.2 Silver leaf shall be supplied in either of the two forms as specified by the purchaser:

a) *Detachable* — In books with silver leaf loosely placed in between white tissue paper; or

b) *Non-detachable* — In books with silver leaf pressed on white tissue paper to prevent silver leaf becoming detached from paper due to draughts or air-currents.

5.3 Each book shall contain 10 silver leaves separated by good quality white tissue paper so as not to cause deterioration of surface quality of the silver leaves.

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*Methods for assaying of silver in silver and silver alloys (*first revision*).

†General requirements for the supply of metallurgical materials (*first revision*).

6. SAMPLING AND CRITERIA FOR CONFORMITY

6.1 Lot — In any consignment, minimum of ten packs shall constitute a lot.

6.2 The number of packs to be sampled from each lot for the purpose of workmanship, dimensional and weight requirements and also for assay shall be as given in Table 1. These packs shall be selected at random preferably with the help of random number tables (*see* IS : 4905-1968*).

TABLE 1 SCALE OF SAMPLING

No. of Packs in the Lot	Sample Size for Workmanship, Dimensional and Weight Requirements	No. of Determinations for Assay
(1)	(2)	(3)
From 10 to 25	8	3
,, 26 to 50	13	4
,, 51 and above	20	5

6.3 All the packs selected as per col 2 of Table 1 shall be examined for workmanship, dimensional and weight requirements. There shall be no failure if the lot is to be accepted for these requirements.

6.4 The number of determinations to be carried out for assay shall be as given in col 3 of Table 1. For this purpose, at least 2 packs shall be drawn for each determination and 5 leaves from each pack shall be taken out. A composite sample of 1 000 mg shall be prepared out of 10 silver leaves taken above. This process is to be repeated for each determination of assay. There shall be no failure in respect of assay if the lot is to be accepted for this characteristic.

7. MARKING

7.1 Each package shall be marked with the following:

a) The purity of silver,
b) Net weight of one packet,
c) Weight of the tissue papers,
d) Actual weight of silver leaves,
e) The approximate size of the silver leaf, and
f) Trade-mark or name of the manufacturer.

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*Methods for random sampling.

7.1.1 The material may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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